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To make this more clear, suppose that the values of the net premiums in the two Companies are equal (or $P=P'$), but that the loading in the Company (B) is double that in (A), then, by the process indicated in Mr. Jellicoe's paper, the same reserve would be made for each Company; but if the profits are divided among the assured, as seems most equitable, in proportion to the loading, the assured of (B) would receive twice as large a bonus as those of (A), although the reserve made for their bonus was only equal to that made for the bonus in (A). This sufficiently shows, that when such a method of division of profits is pursued, we must make a reserve for the profits in a manner somewhat different to that indicated in the paper. In fact, if the bonuses are proportional to the loading, the reserve for those bonuses should be proportional to the value of the loading; and if the bonus is proportional to the gross premium, the reserve should be proportional to the value of the gross premium. The reserve for the bonuses being made according to this law, that for the expenses may be made in just the same way for the participating policies as for the non-participating, supposing it to be thought expedient to make a provision for the expenses apart from that for the bonuses. Thus: let L, L' , be the values of the loadings of the participating policies in the two Companies; then, consistently with the notation used by Mr. Jellicoe, in order that the Companies may unite on equal terms, we should have, when the bonus is proportional to the loading,

$$S = \frac{P + NP}{n} + \frac{L}{m}; \quad S' = \frac{P' + N'P'}{n} + \frac{L'}{m}.$$

If the bonuses are proportional, not to the loading, but to the gross premium, we should write, in these equations, $P+L$ for L , and $P'+L'$ for L' : of course, when the loading is a percentage on the net premium, these two methods of division of profits coincide. The above formulæ will be as easy of application as those given in Mr. Jellicoe's paper; and their application, if it should be thought desirable to use them, would present no greater difficulties in practice.

In conclusion, allow me to state, that the preceding remarks are intended simply to show how the principles laid down by Mr. Jellicoe may be applied to cases not included in his very able paper.

I am, Sir,

Your obedient Servant,

London, 25th May, 1858.

T. B. SPRAGUE.

INSTITUTE OF ACTUARIES.

PROCEEDINGS OF THE INSTITUTE.

First Ordinary Meeting, Session 1857-58.—Monday, 30th November, 1857.

JOHN FINLAISON, Esq., President, in the Chair.

The minutes of the annual general meeting were read and confirmed.

The Secretary announced several donations to the library.

Mr. T. B. Sprague, duly nominated at the last ordinary meeting, was elected a Fellow; and the following candidates, duly nominated at the last ordinary meeting, were elected members, viz. :—

Official Associate—Arthur Pearson.

Associates.

Henry Hansley.

Alfred Jones.

A paper was read "On a new formula for the expectation of life." By C. A. M. Willich, Esq.

Second Ordinary Meeting, Session 1857-58.—Monday, 28th December, 1857.

CHARLES JELlicoe, Esq., Vice-President, in the Chair.

The minutes of the last ordinary meeting were read and confirmed.

The Secretary announced various donations to the library.

The following candidates, duly nominated at the last ordinary meeting, were elected members of the Institute, viz. :—

Official Associate—Charles Bush Clabon.

Associates.

Charles Bischoff.

Josiah Martin.

David Alexander Bumsted.

Charles Edward Mason.

George Alfred Carr.

William John Frederick Norfolk.

Joseph Stevens Cudlip.

Edward Brownell Walker.

William Pridden Hudson.

Henry Charles Wilson.

A paper was read "On the value of life annuities yielding a given rate of interest, the capital to reproduce the purchase-money being invested at another rate." By C. A. M. Willich, Esq.

Third Ordinary Meeting, Session 1857-58.—Monday, 25th January, 1858.

PETER HARDY, Esq., Vice-President, in the Chair.

The minutes of the last ordinary meeting were read and confirmed.

The Secretary announced various donations to the library.

The following candidates, duly nominated at the last ordinary meeting, were elected Associates of the Institute, viz. :—

Marcus Nathan Adler.

Wallwyn Shephard.

William James Moore.

George Lucas Wright.

The Chairman announced the following as the results of the annual examinations. Out of nine candidates at the Matriculation, six had passed in the order of merit indicated, viz. :—

Marcus Nathan Adler.

John Finlaison, Junior.

Alexander John Finlaison.

William John Frederick Norfolk } equal.

William Bell Grant

Edward Brownell Walker.

Four candidates presented themselves for the second year's examination, and passed in the following order, viz. :—

George William Berridge.

William Wallis.

James Terry.

Stephen McDonnell Clare.

Four candidates also presented themselves for the third year's examination, of whom one withdrew, and the remaining three passed in the following order, viz. :—

John Simm Smith,

Thomas Carr

Samuel Younger } equal.

The three becoming entitled to certificates of competency.

A paper was read "On the investment of the funds of Assurance Companies." By Samuel Brown, Esq., V.P.

Fourth Ordinary Meeting, Session 1857-58.—Monday, 22nd February, 1858.

W. B. HODGE, Esq., Vice-President, in the Chair.

The minutes of the last ordinary meeting were read and confirmed.

The Secretary announced various donations to the library.

A paper was read "On the principles which should govern Life Assurance Companies in amalgamating." By Charles Jellicoe, Esq., V.P.

Fifth Ordinary Meeting, Session 1857-8.—Monday, 29th March, 1858.

CHARLES JELlicOE, Esq., Vice-President, in the Chair.

The minutes of the last ordinary meeting were read and confirmed.

The Secretary announced various donations to the library.

The following candidates, duly nominated at the last ordinary meeting, were elected members of the Institute, viz. :—

Official Associate—Donald M. Gillivray.

Associate—George William Kilford.

A paper was read "On the terms upon which the business of one Insurance Company may be equitably transferred to another." By T. B. Sprague, Esq.

Sixth Ordinary Meeting, Session 1857-8.—Monday, 26th April, 1858.

CHARLES JELlicOE, Esq., Vice-President, in the Chair.

The minutes of the last ordinary meeting were read and confirmed.

The Secretary announced various donations to the library.

The following candidates, duly nominated at the last ordinary meeting, were elected members of the Institute, viz. :—

Official Associate—John Lane.

Associate—Edward Raban Cave Browne.

A paper was read "On the rates of interest for the use of money in ancient and modern times. (Part II.)" By W. B. Hodge, Esq., V.P.

Annual General Meeting, Saturday, 5th June, 1858.

CHARLES JELlicOE, Esq., Vice-President, in the Chair.

The circular convening the meeting having been read,

The minutes of the last ordinary meeting were read and confirmed.

The following Report of the Council on the progress of the Institute during the past year was read, viz. :—

"REPORT OF THE COUNCIL.

"The events of the past session of the Institute have little to distinguish them from those which are of ordinary occurrence. It is, nevertheless, desirable to record them.

"The Members elected have been 22; and the number seceding, from various causes, is 7. There are now on the register 45 Fellows, 18 Official Associates, and 81 Associates.

"The receipts for the year have amounted to £263. 3s. 10d., and the payments to £290. 4s. 6d. The legacy bequeathed by Mr. Messenger to the Institute has been vested in the purchase of £180. 3s. 11d., Three per Cent. Consols.

"The income of the year has been augmented, as the members are aware, by a donation from Mr. Gompertz. The appreciation of the objects and labours of the Institute, shown by so distinguished a member of the profession, must be looked upon as a gratifying circumstance.

"The following papers have been read at the ordinary meetings of the session :—

Nov. 1857. 'On a new formula for the expectation of life.' By C. A. M. Willich, Esq., F.I.A.

- Dec. 1857. 'On the value of life annuities yielding a given rate of interest, the capital to reproduce the purchase-money being invested at another rate.' By C. A. M. Willich, Esq., F.I.A.
- Jan. 1858. 'On the investment of the funds of Assurance Companies.' By Samuel Brown, Esq., V.P.I.A.
- Feb. " 'On the principles which should guide Assurance Companies in amalgamating.' By Charles Jellicoe, Esq., V.P.I.A.
- Mar. " 'On the terms upon which the business of one Insurance Company may be equitably transferred to another.' By T. B. Sprague, Esq., F.I.A.
- April " 'On the rate of interest for the use of money in ancient and modern times. (Part II.)' By W. B. Hodge, Esq., V.P.I.A.

"Some of these have already appeared, and the remainder will shortly appear, as usual, in the *Journal* of the Institute.

"After much consideration, the Council have determined on applying the interest which has accrued to the present time from Mr. Messenger's bequest, towards the purchase of a prize to be competed for by the Associates, and to be given for the best essay on a subject which the Council will select. The regulations to be observed by the candidates will shortly be made known.

"The Council have only further to add, that an effort made by them, in common with others, to obtain the partial use of the rooms in Somerset House vacated by the Royal Society, has not hitherto proved successful. The Government, it appears, is about to take possession of them for its own purposes, and holds out little ground of expectation that such gratuitous accommodation will ever be afforded."

The appended Abstract of the receipts and payments for the financial year ending 31st March last was also read (*see next page*).

Resolved unanimously—

"That the Report be adopted and entered on the minutes, together with the financial Abstract."

The election of President, Vice-Presidents, and Officers, for the year ensuing, was then proceeded with.

Mr. Bailey and Mr. Cutcliffe were appointed Scrutineers.

The result of the ballot was then declared, by which it appeared that the List of President, Vice Presidents, and Officers, was as follows :—

President.

JOHN FINLAISON, Esq. (late Government Actuary.)

Vice Presidents.

PETER HARDY, F.R.S.	CHARLES JELlicoe, Esq.
WILLIAM BARWICK HODGE, Esq.	ROBERT TUCKER, Esq.

Treasurer.

JOHN LAURENCE, Esq.

Honorary Secretaries.

JOHN REDDISH, Esq.	JOHN HILL WILLIAMS, Esq.
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Resolved unanimously—

"That the thanks of the meeting be given to the President, Council, and Officers, for their services during the past year.

"That the thanks of the meeting be given to the Scrutineers.

"That Mr. Child, Mr. Haycraft, and Mr. Watkins, be elected Auditors for the year ensuing."

A vote of thanks was then passed to the Chairman, and the meeting separated.

